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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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COUNTRY USSR

REPORT

SUBJECT

1. Ordzhonikidze Power Combine
2. Uzhgorod Power Combine
3. Armenian Power System

DATE DISTR. 5 MAY 1960

NO. PAGES 1

REFERENCES

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

report on power systems in the USSR

Attachment: A three-page report on the Ordzhonikidze Power Combine, the Uzhgorod Power Combine, and the Armenian Power System. Information is given on the capacity, equipment, facilities, etc., of the Ordzhonikidze GES, Gizeldon GES, Ezminskaya GES, Uzhgorod GES and TETS, Kanaker GES, Sevan GES, Leninakan GES, Yerevan GES, and the Zemo Avchala GES.

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- 123N 1. ORDZHONIKIDZE POWER COMBINE
 714N 2. UZHGOROD POWER COMBINE
 11N 3. ARMENIAN POWER SYSTEM

1. The Ordzhonikidze Power Combine (Ordzhonikidzevskiy Energokombinat) was within the Southern Power System. The directorate of the Combine was located in Ordzhonikidze. The main directorate was located in the building of the Ministry of Electric Power Stations in Moscow, to which the Combine was subordinate. The Combine consisted of the following hydroelectric power stations:

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- a. The Ordzhonikidze hydroelectric power station (GES), located on the Terek River, on the outskirts of Ordzhonikidze, formerly Dzauzhikau, the capital of the Severo-Osetinskaya ASSR. Its installed capacity was about 6,000 kilowatts or 7,400 KVA and the average output was about 3,000 kilowatts.

[redacted] The dam and reservoir were very small. The transformer station was outdoors. The GES had no underground installations. It had two steel conduits about 100 meters long;

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[redacted] The head was about 25 meters. The diversion canal was made of reinforced concrete and measured about two kilometers long; [redacted] The GES had two 3,000-kilowatt vertical turbines of unidentified foreign make.

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[redacted] The GES had two generators of an unknown type that had been manufactured in an unidentified foreign country. They produced an average of 3,700 KVA each.

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[redacted] The GES was built to supply electrical energy to the city of Ordzhonikidze

[redacted] No foreigners worked at this station or any of the others described below.

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- b. The Gizeldonskaya GES, located on an unidentified river near the town of Gizel (N 43-02, E 44-34), about 12 kilometers east of Ordzhonikidze. Its turbines were horizontal, Pelton type, manufactured in the Stalin machinery plant in Leningrad.

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- c. Ezminskaya GES, on the Terek River, near the town of Ezminzes, about 20 kilometers south of Ordzhonikidze.

this GES had [redacted] 30,000-kilowatt vertical Francis turbines built in the Uralskiy mashinnostroitelnyy zavod, which was located in Uralsk. This GES had no reservoir

[redacted] it used water from the Ordzhonikidzevskaya GES, about 20 kilometers away. Each generating unit had a capacity of 37,000 KVA. The transformer station was outdoors. The GES had no underground installations. The GES had two or three steel conduits with a head of about 200 meters. The diversion canal was made of reinforced concrete.

[redacted] The GES had two or three 30,000-kilowatt vertical Francis turbines. The GES had two or three generators, each driven by a turbine.

[redacted] The turbines and generators were installed in late 1954.

[redacted] The energy produced was for both urban and industrial use

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2. The Uzhgorod Power Combine, which was subordinate to the Ministry of Electric Power Stations, was composed of the following power stations:

- a. Uzhgorodskaya GES, located on the Uzh River, in Uzhgorod. Its office was located in the city

The installed capacity was 2,250 kilowatts. The capacity in KVA was 2,800.

the average output, or the capacity of the reservoir.

The GES had no underground installations. The dam was of reinforced concrete, was about three meters high, and was a free flow type. There were no conduits. The drop between the station and the river was about ten meters. The diversion canal had been excavated in the earth and was partly of reinforced concrete.

The GES had two vertical Kaplan turbines, one of 1,500 and the other of 750 kilowatts. Both had been manufactured in an unidentified foreign country.

The GES had two turbine-driven generators, one of which had been built in an unidentified foreign country. One had a capacity of 1,875 KVA; the other had a capacity of 925 KVA. Both turbines and generators had been installed before World War II.

Energy produced was for both urban and industrial use. He thought it was transmitted over a great distance.

- b. Uzhgorod thermoelectric power station (TETs), located in Uzhgorod. Its installed capacity was about 3,000 kilowatts. The station burned coal transported from an unknown point. The transformer station was outdoors. it had no cooling towers.

- c. Uzhgorodskaya 2-ya GES, located on the Uzh River, about four or five kilometers upstream from the city of Uzhgorod. The installed capacity was between about 2,500 and 3,000 kilowatts. The transformer station was outdoors. There were no conduits. The drop between the station and the river was about eight meters. The canal was the same as that of the Uzhgorodskaya GES and was partly earth and partly reinforced concrete. The GES had two vertical Kaplan turbines from an unidentified foreign country.

3. The Armenian Power System (Upravleniye Armenergo), was subordinate to the Ministry of Electric Power Stations. The office of the grid was located in Yerevan (N 40-11, E 44-30). The system consisted of the following electric power stations:

- a. Kanakarskaya GES, located on the Zanga River, near the town of Kanaker. It was considered secret; It had an installed capacity of 80,000 kilowatts, an average output of 80,000 kilowatts, and four generating units. The output in KVA was 100,000. The reservoir was very small. The transformer station was outdoors. The GES had no underground installations. It had two steel conduits about 300 meters long, each of a different unspecified diameter. The drop between the station and the river was about 200 meters. The diversion canal was of reinforced concrete.
- The GES had four or six vertical Francis turbines, two of which had a capacity of 25,000 kilowatts, and two a capacity of 15,000 kilowatts. They had been built in the Stalin machinery plant in Leningrad.

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The GES had four or six turbine-driven vertical generators.

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Electricity produced was for both urban and industrial use although

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- b. Sevanskaya GES, located at the source of the Zanga River on Lake Sevan, near the town of Sevan. The installed capacity was about 40,000 kilowatts. Its average output was about 40,000 kilowatts.

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Lake Sevan, with an area of about 1,500 square kilometers, was the reservoir. It did not know its capacity. The transformer station was outdoors; the generator room was underground. This GES had no dam. It had two steel-lined conduits about 50 meters long that had been made in the rock. The head was about 50 meters. There was no diversion canal. The GES had two 20,000-kilowatt vertical Francis turbines

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they had been installed in 1941.

Their average output was 20,000 kilowatts.

The GES had two 20,000-kilowatt turbine-driven generators.

Electricity produced was for both urban and industrial use

This GES was considered secret, but no special documentation was necessary to work there.

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- c. Leninakanskaya GES, built on the Akhuryan River near an unidentified town located about ten kilometers west of Leninakan (N 40-48, E 43-50). The GES had four horizontal Francis turbines, each with a capacity of less than 10,000 kilowatts.

The GES had no underground installations. It had four turbine-driven generators not further identified. This GES was very old;

- d. Yerevanskaya GES, on the Zanga River near Yerevan.

The transformer station was outdoors. It had no underground installations. The GES had two or three horizontal Francis turbines, each of less than 5,000 kilowatts, which had been installed at the beginning of the century. It had two or three turbine-driven generators.

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- e. Zemo-Chalskaya GES, on the Kura River near the town of Avchala (N 41-42, E 44-45), about 12 kilometers north of Tbilisi. The main office of its grid was located in Tbilisi.

This GES had four vertical Kaplan turbines not further described and four turbine-driven generators. The transformer station was outdoors.

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- f. A GES located between Yerevan and Sevan.

It had four 60,000 kilowatt vertical turbines;

it had four turbine-driven generators.

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